Pioneer sound.vision.soul

Service Manual

ORDER NO.
TRT1140

AMPLIFIED SUBWOOFER

TS-WX22A

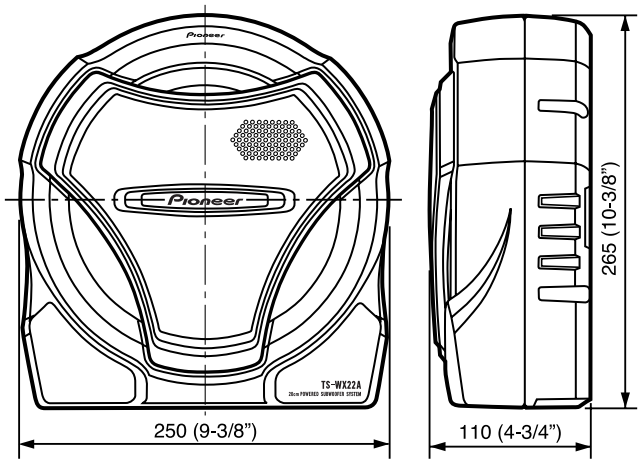
XCN/EW
XCN1/EW

1. SPECIFICATIONS

- Speaker specifications
  - Size ..... ϕ200mm (8" Dia.)
    High compliance, rolled edge
    Heat-resistant voice coil
    Strontium magnet: 650 g (23 oz)
- Amplifier
  - Max. Power output ..... 150W (80Hz. 35% THD)
  - DIN output power (DIN45324, 80Hz, 2.0Ω+B=14.4V) 70W
  - INPUT LEVEL (at Gain Max)
    (RCA) ..... 100mV+100mV/20kΩ
    (Speaker line) ..... 2V+2V/5kΩ
  - Power source ..... DC14.4V (10.8~15.6V allowable)
  - Max. current consumption 10A
  - Grounding ..... Negative ground
- Speaker system ..... Sealed design
- Cabinet material ..... High-density compound resin
- Sensitivity ..... 101 dB/W (In car, SUV type)
- Size ... 250mm (9-3/8")(W)×110mm (4-3/4")(D)×265mm (10-3/8")(H)
- Weight (including accessory parts) 3.82kg (8b 7oz)
- Gross weight (including packaging) 4.64kg (10lb 4oz)

Note :
Specifications and the design are subject to possible modification without notice due to improvements.

• Figure of Measurement



Unit:mm (in.)

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
© PIONEER CORPORATION 2004

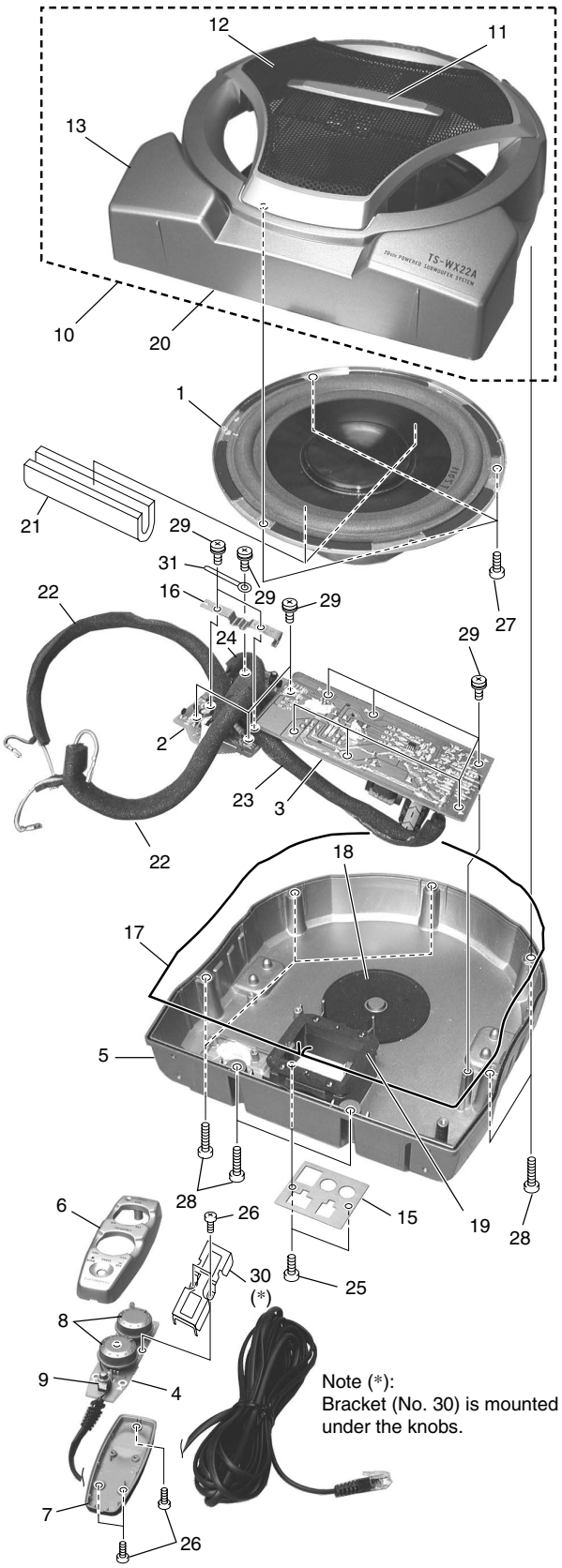
H – IZX DEC. 2004 Printed in Japan

2. EXPLODED VIEWS AND PARTS LIST

NOTES :
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 EXTERIOR SECTION PARTS LIST

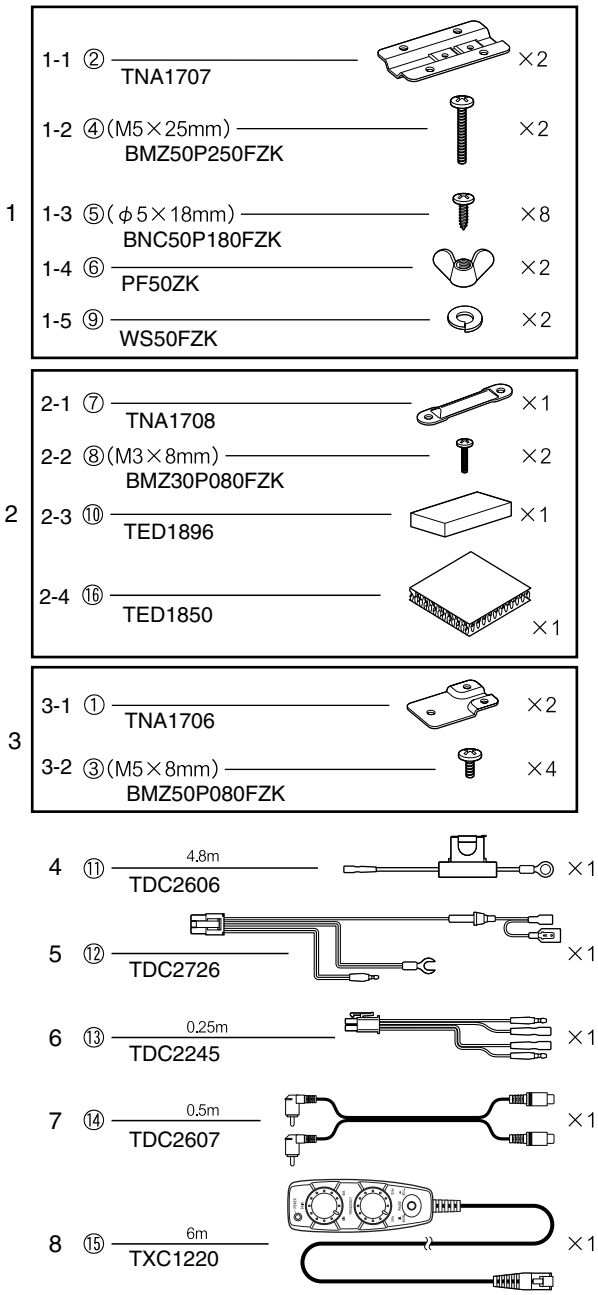
Mark	No.	Description	Part No.	Remarks
	1	Speaker LR	20-227AZ/XCN	×1
		PC BOARD UNIT	TWX1040-BZ/XCN	×1
	2	├ AMP UNIT	TWH1026	×1
	3	├ CONTROL UNIT	TWG1019	×1
	4	└ SWITCH UNIT	TWS1033	×1
	5	Cabinet	TLM1633	×1
	6	Upper Case	TLM1706	×1
	7	Lower Case	TLM1635	×1
	8	Knob	TAA1017	×2
	9	Button	TAA1018	×1
	10	Baffle Assy	TXL1297	×1
NSP	11	├ Badge	TAM1248	×1
NSP	12	├ Mesh	TLL1488	×1
NSP	13	├ Baffle	TLM1632	×1
NSP	14	└ Cushion	TED1883	×1
	15	Panel	TAN1189	×1
	16	Bracket	TNA1705	×1
NSP	17	Packing	TEB1455	×1
	18	Cushion	TED1847	×1
	19	Packing	TED1848	×1
	20	Packing	TED1849	×1
	21	Sound Absorbent	TED1514	×2
	22	Cushion	TED1898	×2
	23	Cushion	TED1899	×1
	24	Cushion	TED1900	×2
	25	Screw	BMZ30P060FZK	×2
	26	Screw	BPZ26P080FZK	×5
NSP	27	Screw	BPZ40P120FZK	×3
NSP	28	Screw	PPZ40P180FNI	×7
	29	Screw	PMH30P080FNI	×12
	30	Bracket	TNA1764	×1
	31	Wire Holder	TBA1207	×1
NSP	32	Wire Holder	TEX1007	×1



2.2 ACCESSORY PARTS LIST

Mark	No.	Description	Part No.	Remarks
	1	Installation Kit	TEA1953	×1
	1-1	Bracket	TNA1707	×2
NSP	1-2	Screw	BMZ50P250FZK	×2
NSP	1-3	Screw	BNC50P180FZK	×8
NSP	1-4	Nut	PF50ZK	×2
	1-5	Washer	WS50FZK	×2
	2	Installation Kit	TEA1954	×1
	2-1	Metal Fitting	TNA1708	×1
NSP	2-2	Screw	BMZ30P080FZK	×2
	2-3	Spacer	TED1896	×1
	2-4	Cushion	TED1850	×1
	3	Installation Kit	TEA1955	×1
	3-1	Metal Fitting	TNA1706	×2
NSP	3-2	Screw	BMZ50P080FZK	×4
	4	Cord	TDC2606	×1
	5	Cord	TDC2726	×1
	6	Cord	TDC2245	×1
	7	Cord	TDC2607	×1
	8	Remote Controller	TXC1220	×1
		Operating Instructions	TRD1237	×1

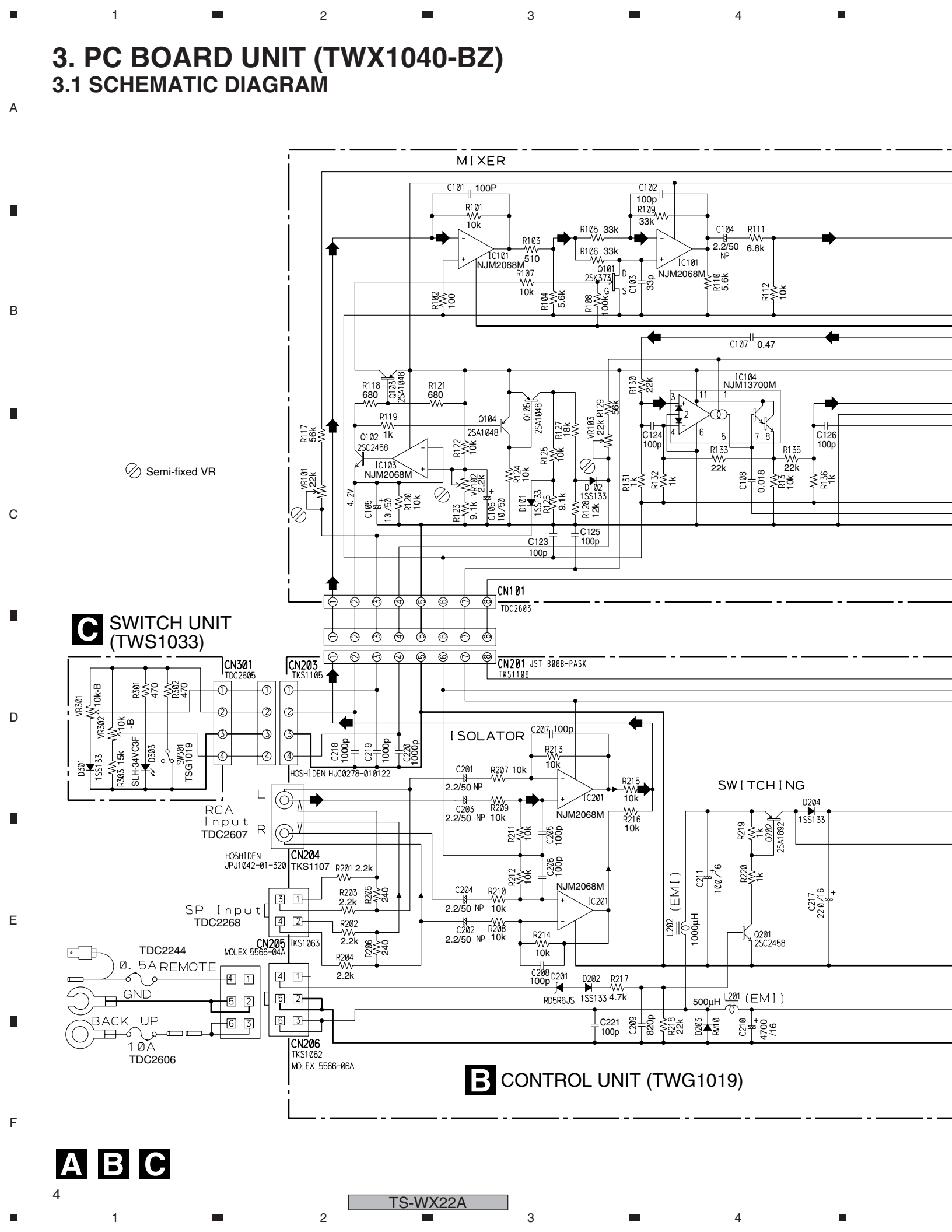
● **Parts Included**



2.3 PACKING PARTS LIST

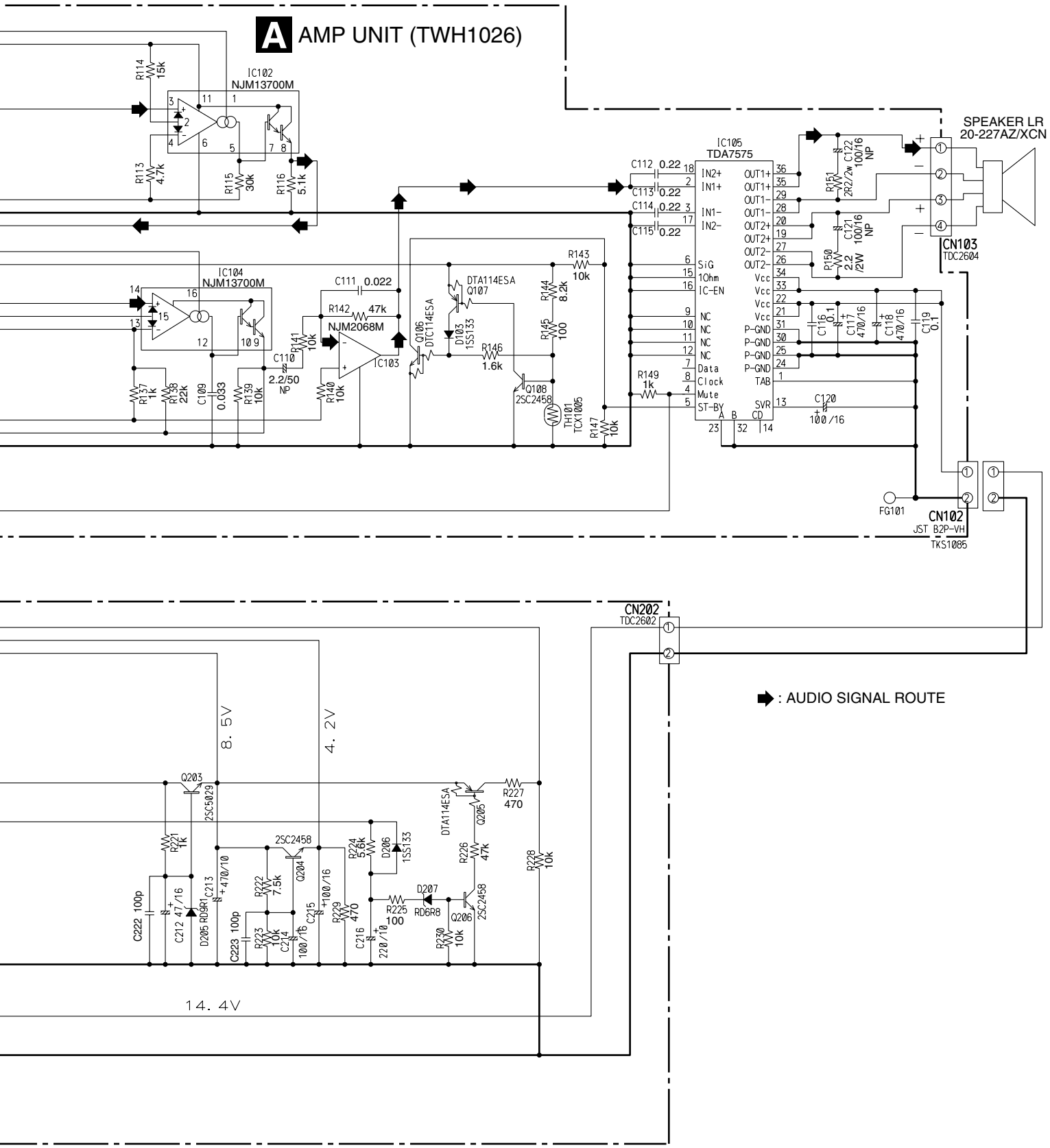
Mark	No.	Description	Part No.	Remarks
		Protector	TEC2051	1 pair
		Packing Case	THF4182	×1
		Protection Sheet	THC2462	×1

3. PC BOARD UNIT (TWX1040-BZ)
3.1 SCHEMATIC DIAGRAM



A B C

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

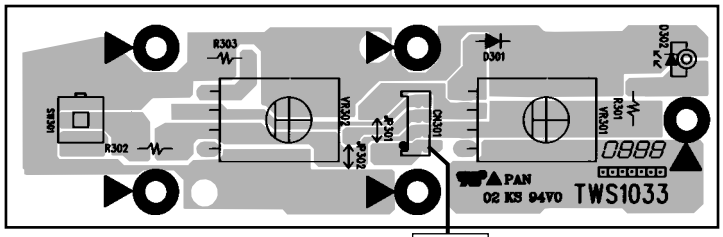


3.2 PCB CONNECTION DIAGRAM

SIDE A

SIDE A

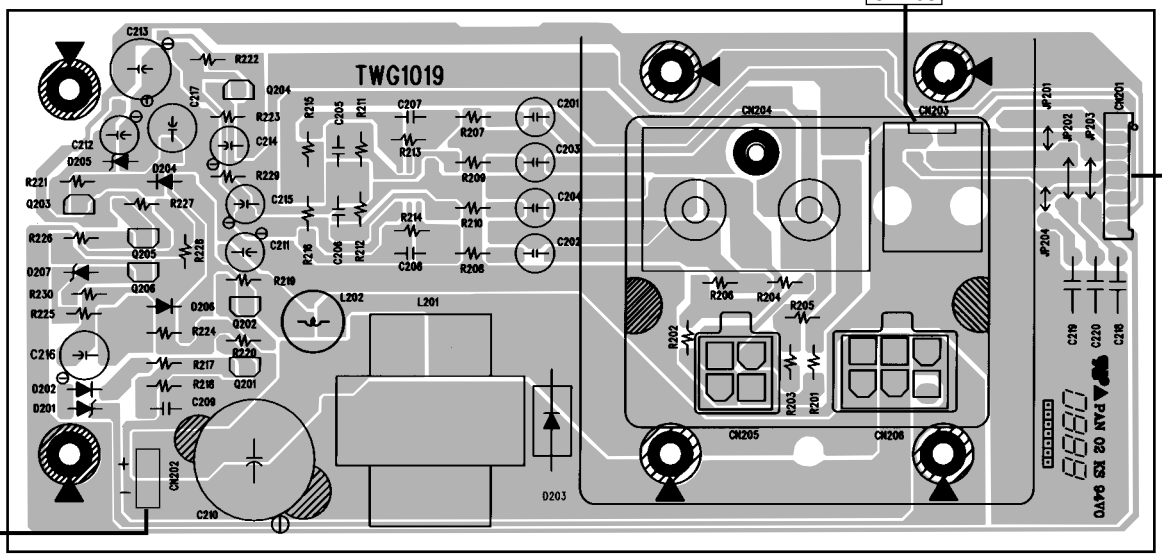
C SWITCH UNIT



CN301

B CONTROL UNIT

CN203

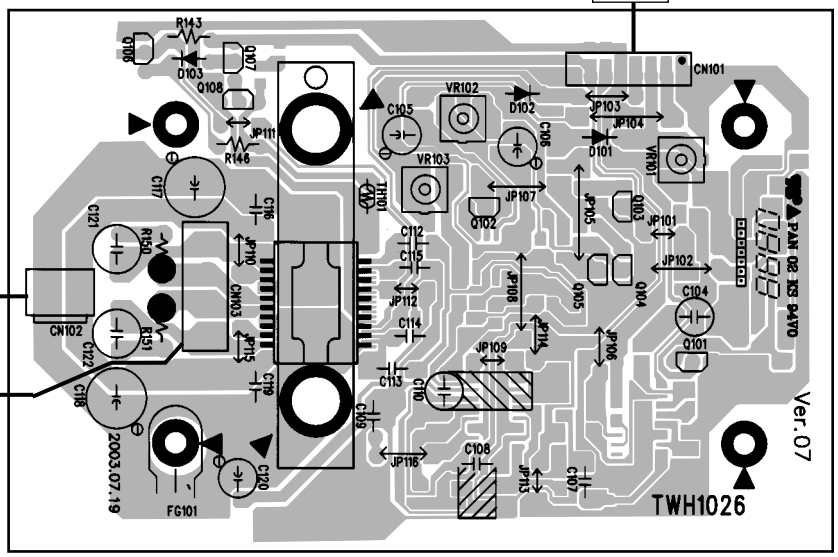


CN202

Q203 Q205 Q206 Q204 Q202 Q201

A AMP UNIT

CN101



CN102

CN103

SPEAKER
LR

VR102 VR103 VR101

Q106 Q107 Q108 Q102 Q103 Q105 Q104 Q101

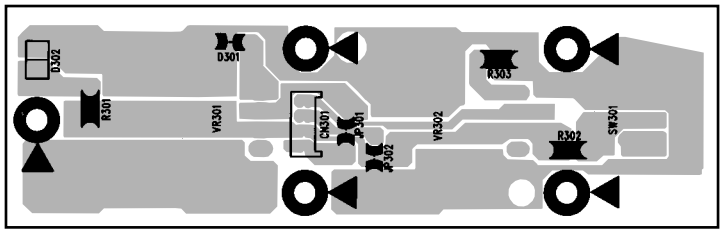
A B C

A B C

SIDE B

SIDE B

C SWITCH UNIT

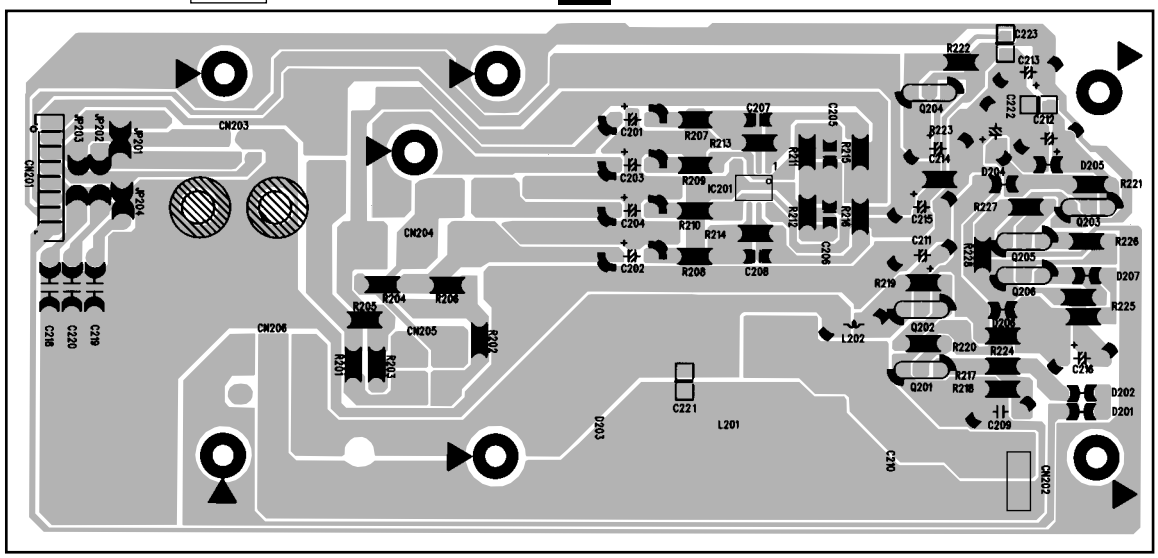


CN301

B CONTROL UNIT

CN203

CN201



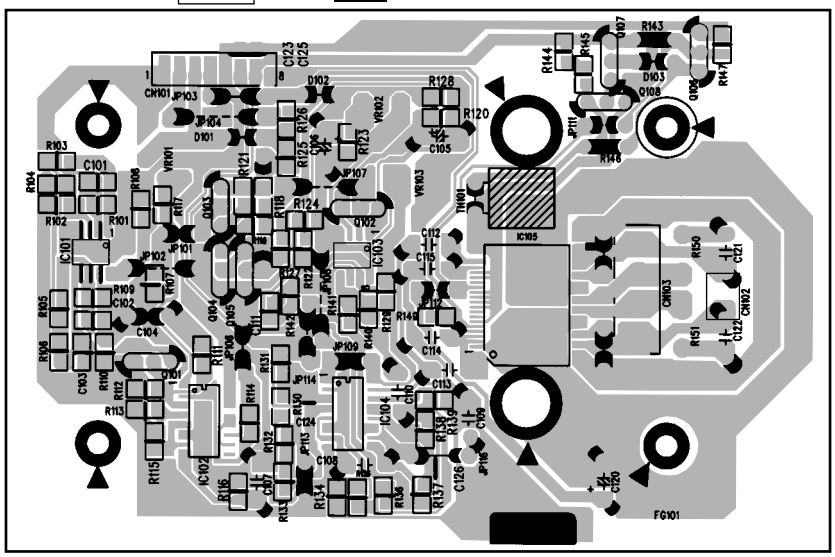
CN202

IC201

Q204 Q205 Q203
Q202 Q206
Q201

A AMP UNIT

CN101



CN103 CN102

VR102
VR101 VR103

IC101 Q103 Q102 Q107 Q106
Q101 Q104 Q105 IC105 Q108
IC102 IC104

A B C

A B C

3.3 PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10[1]* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10[3]* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→ *R50*		*RN2H R 5 0 K*
1 Ω	→ *1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10[1]* →	*5621*	*RN1/4PC 5 6 2 1 F*

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

	1..PC BOARD UNIT	TWX1040-BZ/XCN
	2..AMP UNIT	TWH1026
	2..CONTROL UNIT	TWG1019
	2..SWITCH UNIT	TWS1033

A AMP UNIT

SEMOCONDUCTORS

	IC101,IC103	NJM2068M
	IC102,IC104	NJM13700M
	IC105	TDA7575
	Q101	2SK373
	Q102,Q108	2SC2458
	Q103-Q105	2SA1048
	Q106	DTC114ESA
	Q107	DTA114ESA
	D101-D103	1SS133

CAPACITORS

	C101,C102,C123-C126	CCSQSL101J50
	C103	CCSQSL330J50
	C104,C110	CEANP2R2M50
	C121,C122	CEANP101M16
	C105,C106	CEAT100M50
	C120	CEAT101M16
	C117,C118	CEAT471M16
	C116,C119	CFTNA104J50
	C112-C115	CFTNA224J50
	C111	CKSRYB223K50
	C108	CQMA183J50
	C109	CQMA333J50

RESISTORS

	VR101,VR103 (22kΩ-B)	TCS1029
	VR102 (2.2kΩ-B)	TCS1028
	R150,R151	RS2PMF2R2J
	Other Resistors	RS1/10S###J

OTHERS

	CN101 CORD	TDC2603
	CN102 CONNECTOR	TKS1085
	CN103 CORD	TDC2604
	TH101 POSISTOR	TCX1005
	FG101 TERMINAL	MKX1007
	CUSHION	TED1897

B CONTROL UNIT

SEMICONDUCTORS

	IC201	NJM2068M
	Q201,Q204,Q206	2SC2458
	Q202	2SA1892
	Q203	2SC5029
	Q205	DTA114ESA
	D201	RD5R6JS
	D202,D204,D206	1SS133
	D203	RM10-LF-D2K
	D205	RD9R1JS
	D207	RD6R8JS

COILS

	L201 CHOKE COIL	TTH1082
NSP	L202 CHOKE COIL	TTH1079

CAPACITORS

	C205-C208	CCPUSL101J50
	C201-C204	CEANP2R2M50
	C211,C214,C215	CEAT101M16
	C216	CEAT221M10
	C217	CEAT221M16
	C212	CEAT470M16
	C213	CEAT471M10
	C210	CEAT472M16
	C218-C220	CKPUYB102K50
	C209	CQMA821J50
	C221-C223	CCSQSL101J50

RESISTORS

	All Resistors	RD1/4PU###J

OTHERS

	CN201 CONNECTOR	TKS1106
	CN202 CORD	TDC2602
	CN203 CONNECTOR	TKS1105
	CN204 CONNECTOR	TKS1107
	CN205 CONNECTOR	TKS1063
	CN206 CONNECTOR	TKS1062
	SCREW	BPZ30P100FZK

C SWITCH UNIT

SEMICONDUCTORS

	D301	1SS133
	D303	SLH-34VC3F

SWITCH

	SW301	TSG1019

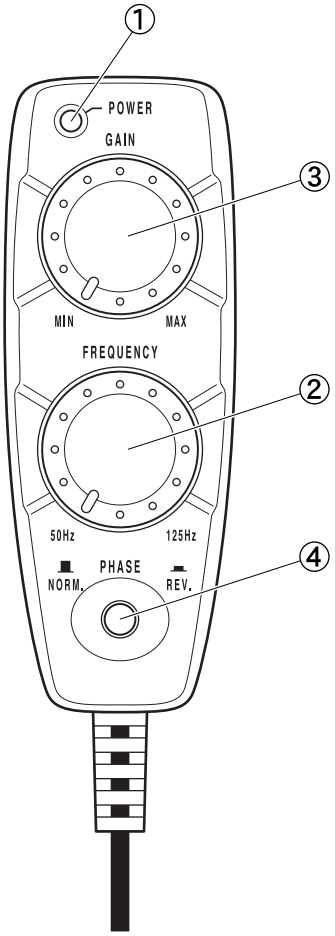
RESISTORS

	VR301,VR302 (10kΩ-B)	TCS1030
	Other Resistors	RD1/4PU###J

OTHERS

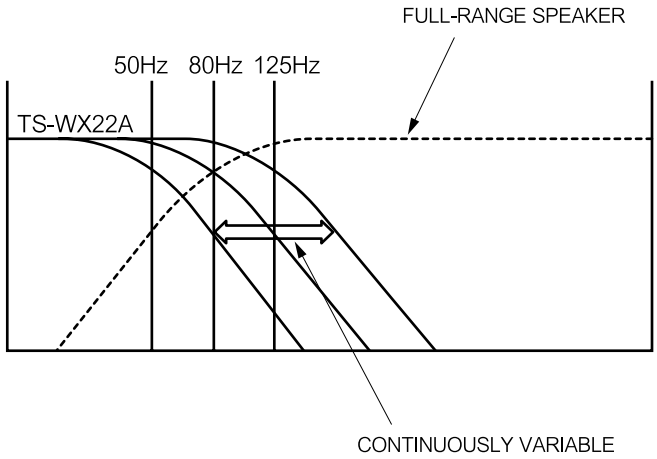
	CN301 CORD	TDC2605
NSP	LED HOLDER	TNK1732

4. CONTROLS AND THEIR USE



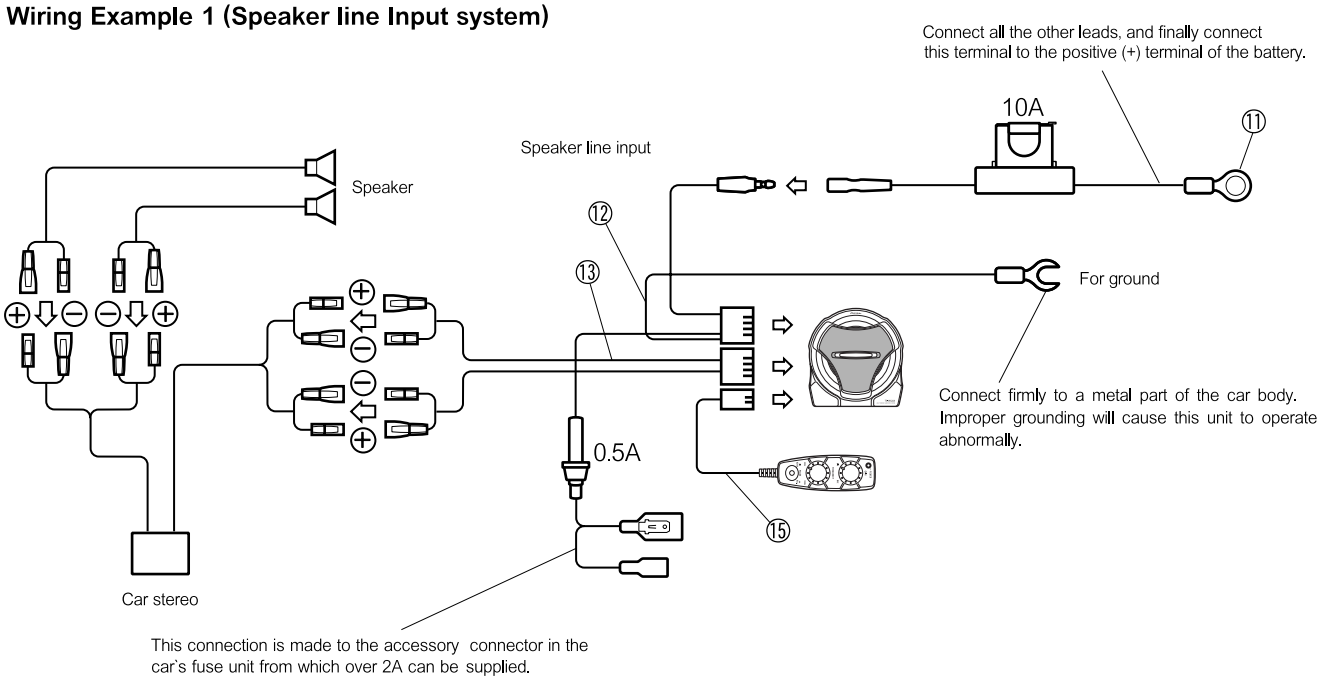
① Power indicator
Lights up when power is turned on.
② Frequency control
Turn this knob to change the frequency during sound reproduction.
Set the knob to the bass setting of your choice (continuously variable from 50Hz to 125Hz).
③ Gain control
Use this countrol to set the desired gain level.
④ Phase switch
Use switch to select the phase according to the system.

CROSSOVER FREQUENCY

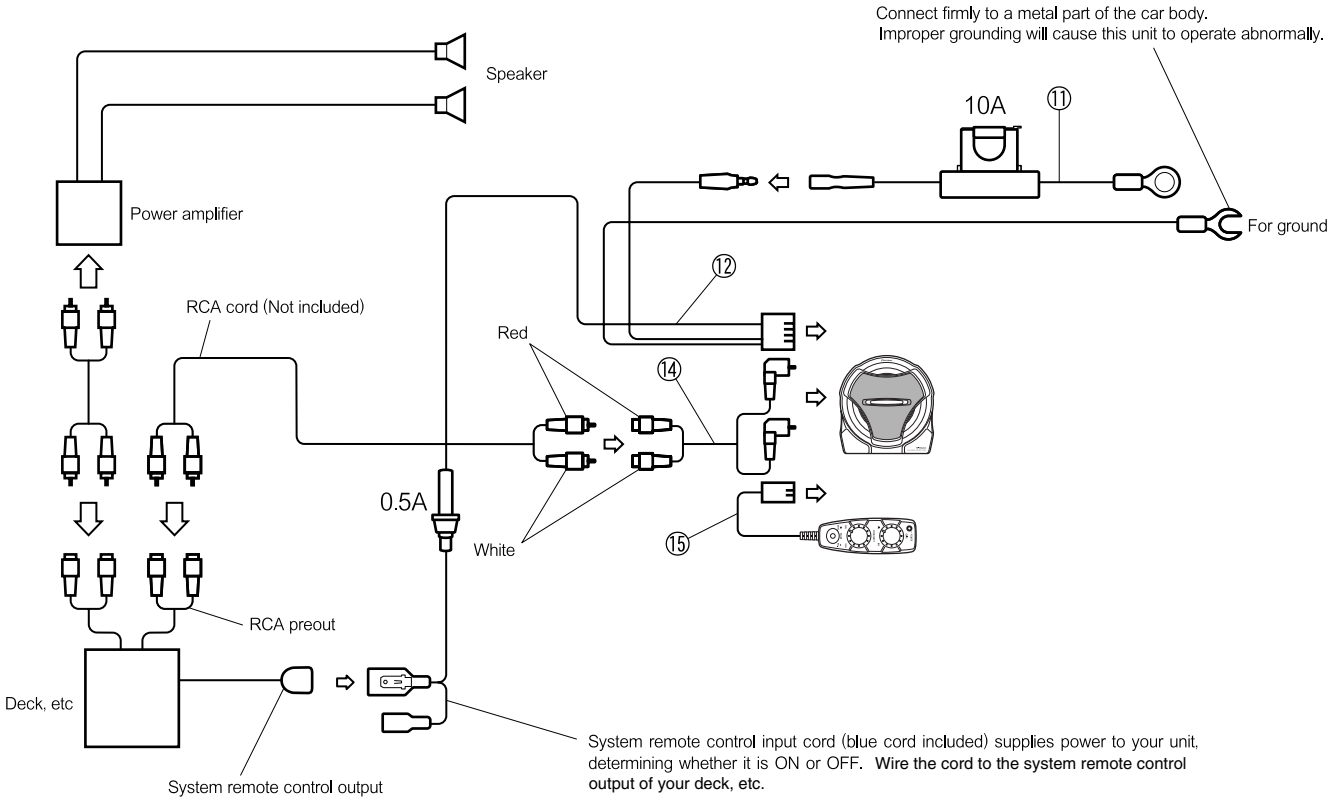


5. CONNECTIONS

Wiring Example 1 (Speaker line Input system)

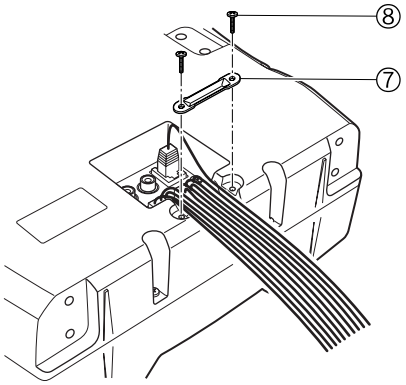

Connect all the other leads, and finally connect this terminal to the positive (+) terminal of the battery.
10A
⑪
Speaker line input
Speaker
⑫
⑬
For ground
Connect firmly to a metal part of the car body. Improper grounding will cause this unit to operate abnormally.
0.5A
⑮
Car stereo
This connection is made to the accessory connector in the car's fuse unit from which over 2A can be supplied.

Wiring Example 2 (RCA Input system)

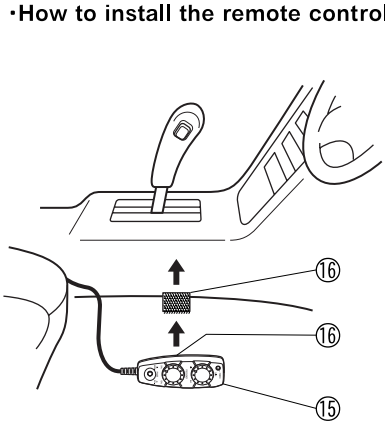

Connect firmly to a metal part of the car body. Improper grounding will cause this unit to operate abnormally.
Speaker
10A
⑪
Power amplifier
For ground
⑫
RCA cord (Not included)
Red
⑭
0.5A
White
⑮
RCA preout
Deck, etc
System remote control input cord (blue cord included) supplies power to your unit, determining whether it is ON or OFF. Wire the cord to the system remote control output of your deck, etc.
System remote control output

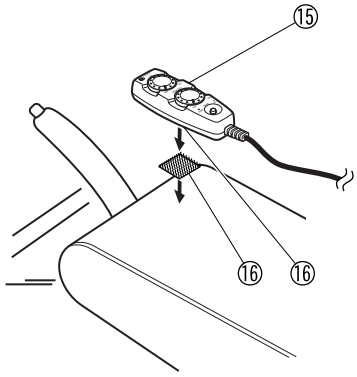
6. HOW TO INSTALL

・Attaching cord clampers

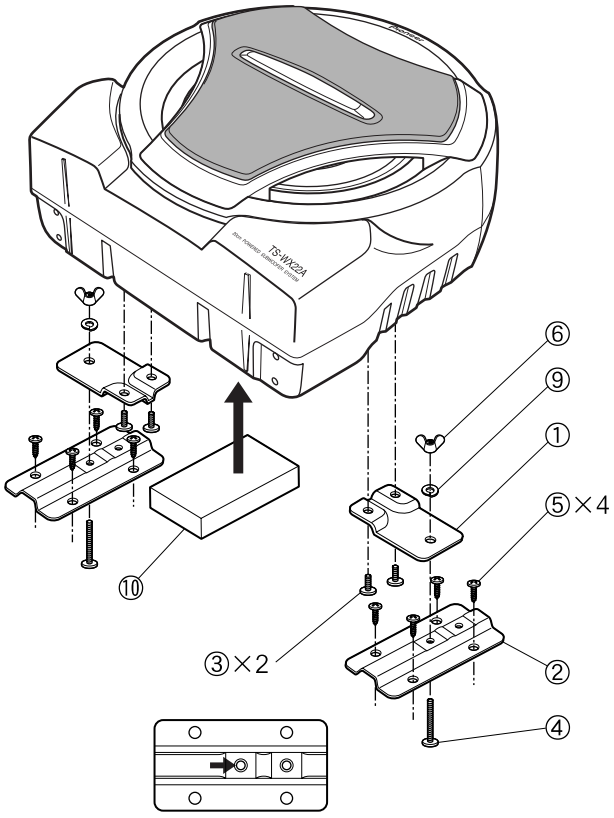


・How to install the remote control





・Horizontal mount



・Vertical mount